



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/632,152	08/01/2003	Kriss Allen Bennett	12-1130	1874
2604	7590	08/23/2004	EXAMINER	
RONALD M. GOLDMAN ROTH & GOLDMAN SUITE 500 21535 HAWTHORNE BLVD. TORRANCE, CA 90503			LAM, CATHY FONG FONG	
			ART UNIT	PAPER NUMBER
			1775	
DATE MAILED: 08/23/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/632,152	Applicant(s) BENNETT ET AL.	
	Examiner Cathy Lam	Art Unit 1775	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 18 June 2004.
- 2a) ☐ This action is **FINAL**.      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) 10-16 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 9 is/are allowed.
- 6) ☒ Claim(s) 1-4 and 7 is/are rejected.
- 7) ☒ Claim(s) 5, 6 and 8 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08-01-2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

Art Unit: 1775

In view of the amendment and remarks filed on June 18<sup>th</sup> 2004, the 112 rejection has been withdrawn, but some claims are continued to be unpatentable. In the remarks, applicant traverses the restriction requirement and the art rejections.

***Election/Restrictions***

In respond to the restriction requirement argument, the method claims are directed to a method of making dielectric ceramic substrate(s), since there could be more than one way to fabricate such layer(s) and that same ceramic substrate(s) can come out from different process. Thus, it is more appropriate to be examined by someone expert in the art. Therefore, the restriction requirement is sustained.

This application contains claims 10-16 are drawn to an invention nonelected with traverse in Paper filed on June 18, 2004. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

***Claim Rejections - 35 USC § 102***

1. Claims 1-4 and 7 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Polis et al (US 6531209).

Polis discloses a discrete powder particles dispersed in a binder to form a layer. The discrete powder particles are ceramic powder in a predetermined amount; the powder suspended in an organic adhesive (col 2 L 39-43). The ceramic powder is mainly comprised of Al<sub>2</sub>O<sub>3</sub> filler material, another ceramic (or dielectric) material may be included (col 4 L 43-45 & L 51-53).

Art Unit: 1775

Polis in Fig 3 shows three layers of  $\text{Al}_2\text{O}_3$  powder in binder are bonded together. Each layer has a predetermined amount of alumina powder in the binder material. The center layer has the filler amount that is between the two outmost layers (col 5 L 55-63 & col 6 L 43-50).

After sintered, the layers bonded together becomes indistinguishable. The prior art Figures show the layers are flat.

2. Claims 1-4 and 7 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Baccini (US 6017410).

Baccini discloses a multilayer green tape circuit board. The circuit board comprised of a plurality of green tape foils and circuit. The circuit is formed on one or both surface(s) of the green tape foil(s) (col 1 L 15-18).

The green tape foil is comprised of alumina and solvents. Two green tape foils that have analogous material are bonded together by melting action (col 1 L 15-17 & col 2 L 27-30).

The prior art Figures show that the green tape foils are flat.

#### ***Allowable Subject Matter***

3. Claims 5, 6 and 8 are objected to as being dependent upon a rejected base claim, but would be allowable if incorporate into independent claims.

4. Claim 9 is allowed.

#### ***Response to Arguments***

5. Applicant's arguments filed on June 18, 2004 have been fully considered but they are not persuasive. Applicant traverses the art rejection and raises the following issues:

Art Unit: 1775

A. Polis' layer is non-analogous art, ie. it is used in the lamp art, not for microelectronic application.

Polis' substrate after sintering forms a single solid part, the filler material particles fused together to create a completed homogeneous part.

B. Baccini does not show conductors on both top and bottom surfaces of any green tape foil.

In response to the above issues:

A. Applicant is claiming a ceramic substrate which is "for bonding..... in a microelectronic module", "....more favorable to ....", and "for bonding to a thin film conductor" are intended use language. There is no such device, module or conductive traces actually being claimed. Thus, the argument is irrelevant because no thin film conductive and thick film conductor, or module are claimed. Polis' substrate continues to meet the present invention.

Polis teaches bonding two dissimilar components together (col 4 L 18-25). Nowhere in Polis discloses the fused components become a completed homogeneous part. The fact that two different amount filled components bonded together does not necessary become a homogeneous layer. Polis teaches that an intermediate valued (interface) layer formed between the two bonded layers.

B. Applicant has not claimed any conductors in the present invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cathy Lam whose telephone number is (571) 272-1538. The examiner can normally be reached on 9am-6pm.

Art Unit: 1775

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Deborah Jones can be reached on (571) 272-1535. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Cathy Lam  
Primary Examiner  
Art Unit 1775

cfl  
August 9, 2004